

CLAIMS

Claims:

1. (Previously Presented) A method of cleaning a fabric load in an automatic laundering apparatus comprising the steps of:
 - selecting a substantially non-reactive, non-aqueous, non-oleophilic, apolar working fluid;
 - selecting at least one washing adjvant;
 - bringing said working fluid and adjvant in contact with fabric in the automatic consumer-operated laundering apparatus;
 - applying mechanical energy to provide relative movement within said fabric in the automatic laundering apparatus; and

wherein the structure of the automatic laundering apparatus comprises components comprises which contact the working fluid is formed from a static dissipating composition selected from a conductive polymer, a static charge dissipating coating, a static charge dissipating shield, and combinations thereof.
2. (Original) The method of claim 1 wherein said non-reactive, non-aqueous, non-oleophilic, apolar working fluid under standard conditions is further characterized by: a KB value less than approximately 30; a surface tension less than approximately 35 dynes/cm²; and a solubility in water less than 10%.
3. (Previously Presented) The method of claim 1 wherein the structure of the automatic laundering apparatus contacted by said working fluid comprises conductive polymers to dissipate static charge.
4. (Previously Presented) The method of claim 1 wherein said mechanical energy occurs in a chamber which confines said working fluid and the fabric.

5. (Original) The method of claim 4 including the step of introducing a water-in-working fluid emulsion to the chamber which confines the fabric and said working fluid.
6. (Previously Presented) The method of claim 5 wherein at least one dispensing chamber is provided and adjuvant is added to said chamber.
7. (Original) The method of claim 6 including the step of introducing a water-in-working fluid emulsion into the adjuvant-dispensing chamber.
8. (Original) The method of claim 1 including the step of introducing a water-in-working fluid emulsion to the fabric prior to bringing the working fluid in contact with the fabric.
9. (Previously Presented) The method of claim 1 including the step of detecting the level of said working fluid in contact with the fabric.
10. (Previously Presented) The method of claim 1 including the step of sensing the initial moisture content of the fabric.
11. (Previously Presented) The method of claim 1 wherein the temperature inside the chamber is sensed and adjusted to ensure that the temperature does not exceed 30°F below the flash point of said working fluid unless the concentration of said working fluid does not exceed its lower flammability limit.
12. (Original) A method of cleaning a fabric load in an automatic laundry machine comprising the steps of:
 - selecting a substantially non-aqueous working fluid;
 - selecting at least one washing adjuvant;
 - placing the fabric in a chamber adapted to confine said working fluid and said fabric;
 - bringing said working fluid and adjuvant in contact with the fabric in the chamber;
 - applying mechanical energy to provide relative movement of said fabric;

extracting the working fluid from the chamber and re-circulating the working fluid to the chamber; and

wherein the structure of the automatic laundering apparatus which contacts the working fluid is formed from static dissipating material compositions.

13. (Original) The method of claim 12 wherein said working fluid is a non-reactive, non-aqueous, non-oleophilic, apolar working fluid.
14. (Original) The method of claim 13 wherein said non-reactive, non-aqueous, non-oleophilic, apolar working fluid under standard conditions is further characterized by: a KB value less than approximately 30; a surface tension less than approximately 35 dynes/cm²; and a solubility in water less than 10%.
15. (Previously Presented) The method of claim 12 wherein the chamber comprises a drum coated with conductive material, which comes in contact with said working fluid;
16. (Previously Presented) The method of claim 12 wherein the automatic laundering apparatus comprises a conduit comprising a static dissipating composition and which is contacted by said working fluid.
17. (Previously Presented) The method of claim 16, wherein the conduit is shielded with a conductive cover to dissipate static charge.
18. (Original) The method of claim 12 including the step of introducing a water-in-working fluid emulsion to the fabric prior to bringing the working fluid in contact with the fabric.
19. (Previously Presented) The method of claim 12 including the step of detecting the level of said working fluid in contact with the fabric.

20. (Previously Presented) The method of claim 12 including the step of sensing the initial moisture content of the fabric.
21. (Previously Presented) The method of claim 12 further comprising heating the working fluid in the chamber, wherein the temperature inside the chamber is sensed and adjusted to ensure that the temperature does not exceed 30 °F below the flash point of said working fluid unless the concentration of said working fluid does not exceed its lower flammability limit.
22. (Original) The method of claim 12 wherein the washing adjuvant is selected from a group consisting of: builders, surfactants, enzymes, bleach activators, bleach catalysts, bleach boosters, bleaches, alkalinity sources, antibacterial agents, colorants, perfumes, pro-perfumes, finishing aids, lime soap dispersants, composition malodor control agents, odor neutralizers, polymeric dye transfer inhibiting agents, crystal growth inhibitors, photobleaches, heavy metal ion sequestrants, anti-tarnishing agents, anti-microbial agents, anti-oxidants, linkers, anti-redeposition agents, electrolytes, pH modifiers, thickeners, abrasives, divalent or trivalent ions, metal ion salts, enzyme stabilizers, corrosion inhibitors, diamines or polyamines or alkoxylates, suds stabilizing polymers, solvents, process aids, fabric softening agents, optical brighteners, hydrotropes, water, suds or foam suppressors, suds or foam boosters, fabric softeners, antistatic agents, dye fixatives, dye abrasion inhibitors, anti-croacking agents, wrinkle reduction agents, wrinkle resistance agents, soil release polymers, soil repellency agents, sunscreen agents, anti-fade agents and mixtures thereof.
23. (Previously Presented) The method of claim 22 wherein the washing adjuvant is a surfactant will having a hydrophilic-lipophilic balance of approximately 3 to 14.
24. (Previously Presented) A method of cleaning fabric in an automatic laundering apparatus comprising the steps of:
 - selecting a substantially non-aqueous working fluid;
 - selecting at least one washing adjuvant;

sensing the initial moisture content of the fabric in a chamber of the laundering apparatus prior to adding working fluid to the chamber;

optionally heating the fabric when the moisture content is above a predetermined quantity;

bringing said working fluid and adjuvant into contact with the fabric when the moisture content of the fabric is below a predetermined quantity; and

applying mechanical energy to provide relative movement within said fabric.

25. (Original) The method of claim 24 wherein said non-aqueous working fluid is a non-reactive, non-aqueous, non-oleophilic, apolar working fluid.

26. (Original) The method of claim 25 wherein said non-reactive, non-aqueous, non-oleophilic, apolar working fluid under standard conditions is further characterized by: a KB value less than approximately 30; a surface tension less than approximately 35 dynes/cm²; and a solubility in water less than 10%.

27. (Previously Presented) The method of claim 24 wherein the structure of the automatic laundering apparatus in contact with said working fluid is formed from a static dissipating composition.

28. (Previously Presented) The method of claim 24 wherein said mechanical energy occurs in a chamber which confines said working fluid and the fabric.

29. (Original) The method of claim 28 including the step of introducing a water-in-working fluid emulsion to the chamber which confines the fabric and said working fluid.

30. (Original) The method of claim 24 wherein the above sensing step is carried out by sensing the humidity of the fabric to be cleaned.

31. (Original) The method of claim 24 wherein the above sensing step is carried out by sensing the conductivity of the fabric.
32. (Original) The method of claim 24 wherein the above sensing step is carried out by sensing the humidity of the air.
33. (Original) The method of claim 24 wherein the chamber comprises a drum coating of conductive polymer and connects to a conduit having a coating of conductive polymer.
34. (Previously Presented) The method of claim 24 further comprising heating the working fluid that enters the chamber, wherein the temperature inside the chamber is sensed and adjusted to ensure that the temperature does not exceed 30 °F below the flash point of said working fluid unless the concentration of said working fluid does not exceed its lower flammability limit.

Claims 35-41 Canceled

42. (Previously Presented) A method of cleaning fabric in an automatic laundering apparatus comprising the steps of:
 - placing the fabric in a chamber adapted to confine said working fluid and said fabric;
 - selecting a substantially non-aqueous working fluid;
 - selecting at least one washing adjuvant;
 - applying mechanical energy to provide relative movement of said fabric; and wherein the structure of the automatic laundering apparatus contacted by said working fluid comprises conductive polymers to dissipate static charge.
43. (Original) The method of claim 42 wherein said working fluid consists of a non-reactive, non-aqueous, non-oleophilic, apolar working fluid under standard conditions, said working fluid further being characterized by: a KB value less than approximately 30; a surface tension less than approximately 35 dynes/cm²; and a solubility in water less than 10%.

44. (Previously Presented) The method of claim 43 in which the materials of the chamber contacted by said working fluid are conductive polymers.
45. (Previously Presented) The method of claim 44 wherein the temperature inside the chamber is sensed and adjusted to ensure that the temperature does not exceed 30 °F below the flash point of said working fluid unless the concentration of said working fluid does not exceed its lower flammability limit.
46. (Previously Presented) The method of claim 43 wherein the adjuvant is a surfactant having a hydrophilic-lipophilic balance of approximately 3 to 14.
47. (Original) The method of claim 42 including the step of introducing a water-in-working fluid emulsion to the chamber which confines the fabric and said working fluid.
48. (Previously Presented) The method of claim 42 including the step of detecting the level of said working fluid in contact with the fabric.
49. (Previously Presented) The method of claim 42 further comprising heating the working fluid that enters the chamber, wherein the temperature inside the chamber is sensed and adjusted to ensure that the temperature does not exceed 30 °F below the flash point of said working fluid unless the concentration of said working fluid does not exceed its lower flammability limit.
50. (Previously Presented) The method of claim 42 wherein the adjuvant is a surfactant having hydrophilic-lipophilic balance of approximately 3 to 14.
51. (Previously Presented) The method of claim 1, wherein the adjuvant is selected from a group consisting of: builders, surfactants, enzymes, bleach activators, bleach catalysts, bleach boosters, bleaches, alkalinity sources, antibacterial agents, colorants, perfumes, pro-perfumes, finishing aids, lime soap dispersants, composition malodor control agents, odor neutralizers, polymeric dye transfer inhibiting agents, crystal growth inhibitors, photobleaches, heavy metal

ion sequestrants, anti-tarnishing agents, anti-microbial agents, anti-oxidants, linkers, anti-redeposition agents, electrolytes, pH modifiers, thickeners, abrasives, divalent or trivalent ions, metal ion salts, enzyme stabilizers, corrosion inhibitors, diamines or polyamines or alkoxylates, suds stabilizing polymers, solvents, process aids, fabric softening agents, optical brighteners, hydrotropes, water, suds or foam suppressors, suds of foam boosters, fabric softeners, antistatic agents, dye fixatives, dye abrasion inhibitors, anti-croacking agents, wrinkle reduction agents, wrinkle resistance agents, soil release polymers, soil repellency agents, sunscreen agents, anti-fade agents and mixtures thereof.

52. (Previously Presented) The method of claim 1, wherein the automatic consumer-operated laundering apparatus comprises conduit which contacts the working fluid, the conduit being formed from a static dissipating composition.

53. (Previously Presented) The method of claim 1, wherein the automatic laundering apparatus comprises a drum and tubing which are coated with a conductive polymer to dissipate static charge.

54. (Previously Presented) The method of claim 1, further comprising the steps of:
drying the fabric; and
bleeding air into the automatic consumer-operated laundering apparatus during drying.

55. (Previously Presented) The method of claim 1, wherein the method further comprises the step of bleeding electrons into the automatic consumer-operated laundering apparatus.

56. (Previously Presented) The method of claim 1, wherein the method further includes the step of increasing the humidity within the automatic consumer-operated laundering apparatus to decrease static build-up.

57. (Previously Presented) The method of claim 10, wherein the method further comprises the step of removing water from the fabric prior to bringing the fabric in contact with the working fluid and adjuvant.

58. (Previously Presented) The method of claim 20, wherein the method further comprises the step of removing water from the fabric prior to bringing the fabric in contact with the working fluid and adjuvant.

59. (Previously Presented) The method of claim 24, wherein the method further comprises the step of removing water from the fabric prior to bringing the fabric in contact with the working fluid and adjuvant.

60. (Previously Presented) The method of claim 42, wherein the method further comprises the step of removing water from the fabric prior to bringing the fabric in contact with the working fluid and adjuvant.